

## 31ST COSPAR SCIENTIFIC ASSEMBLY

### ABSTRACT

#### MARS GLOBAL SURVEYOR: 20 YEARS AFTER VIKING

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The Mars Global Surveyor Mission (MGS), to be launched in November 1996, will provide an orbital platform about Mars from which the entire Martian surface and atmosphere will be observed for at least one Martian year beginning in early 1998. This mission addresses most of the objectives of the Mars Observer Mission, which was lost in August 1993, just prior to its entry into orbit. MGS will extend the exploration and characterization of Mars by providing new and systematic measurements of the surface and atmosphere of the planet. These measurements will be made from a low-altitude polar orbit over a period of one Martian Year, permitting repetitive observations of the surface and the seasonal variations of the atmosphere.

MGS was cost-constrained to be launched on a Delta. The spacecraft is a new lightweight design, but it makes extensive use of the spare components and flight software from Mars Observer. The spacecraft will achieve a circular orbit by aerobraking, utilizing repeated dips into the upper atmosphere to slow down the spacecraft and reduce the size of its orbit. The science instruments are either spares or duplicates of the Mars Observer instruments, but the two heaviest instruments could not be accommodated due to the mass constraints.

MSG is being designed to provide new and valuable scientific data at a significant reduction in cost and operational complexity. The mission will acquire a basic global understanding of Mars as it exists today and will provide a framework for understanding its past,

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- 2) 13.5 Mars after Viking: 20 years of  
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- 3) A. Banin/A. Albee

- 4) No
- 5) Oral
- 6) No